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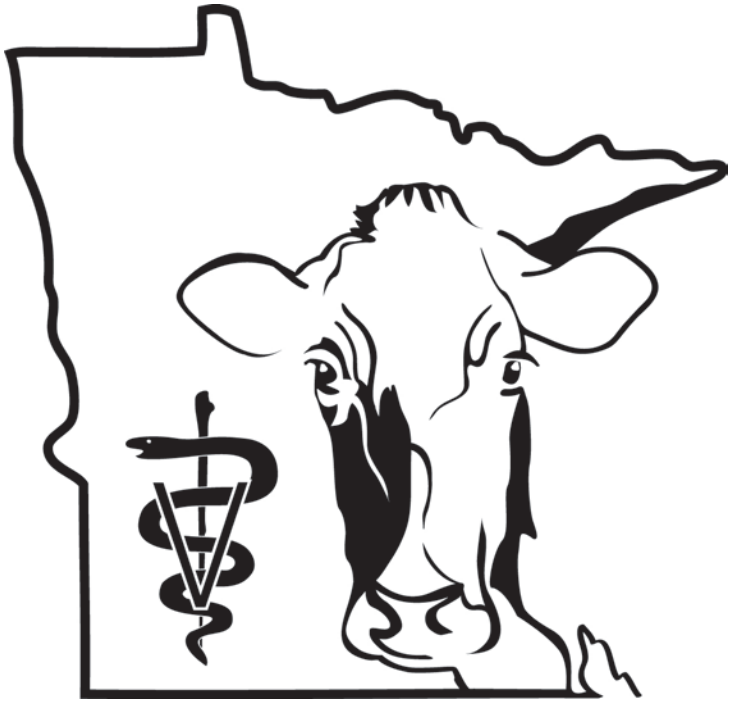

ST. PAUL, MINNESOTA
UNITED STATES OF MINNESOTA

Minnesota DHIA Initiatives Involving the National Animal ID Program and RFID

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MNDHIA has been deeply involved in the development of the proposed national ID program and in management applications for RFID in dairy herds. These activities have lead to some interesting collaborative efforts with the College of Veterinary Medicine and are creating some exciting possibilities for dairy producers and their veterinarians. Some of these projects include:

National and State Cattle Identification Project Planning

MNDHIA's general manager Bruce Dokkebakken has played a very prominent national role on the advisory committee charged with developing the USDA plan for cattle ID. He has spent many hours discussing options and issues with producer groups, RFID tag suppliers, equipment manufacturers, and software companies in order to understand challenges facing implementation of a national animal ID program. Through Bruce's leadership MNDHIA has also been intimately involved in ID efforts at National DHIA and has participated in identification planning for the state of Minnesota.

Barcoding of Labels for Diagnostic Lab Sample Submission

A major issue facing diagnostic labs is the accuracy of sample identification. Unclear identification of samples makes it quite difficult to accurately link the results back to the actual cow identification. Beside the issues of reading handwritten labels and transposition of numbers during the entry process, a variety of identifiers may appear on the sample, including numeric ID number, alphanumeric barn name, USDA steel tag number, registration number, or 15 digit RFID number, making it difficult to automate the reporting of results.

MNDHIA proposed and completed a project with the veterinary college last fall incorporating RFID into barcoded labels for diagnostic lab sample submission (e.g., blood, manure, and mastitis samples). The project involved developing wireless technology (Bluetooth and WiFi) for RFID readers, handheld computers and portable printers for printing barcoded labels at the point of cowside sample collection. During this project more than 3,000 animals on 10 dairies received RFID eartags and had their identification data reported to the Wisconsin Livestock Identification Consortium.

This approach to sample identification should be a large leap in assisting the diagnostic lab in ensuring accuracy. It also provides an opportunity to read results directly back into the producer's DairyCOMP305. Both of these are very important issues to veterinary practitioners that utilize diagnostic testing services.

Provision of a List of Valid Identifiers for Animals in MNDHIA Herds

DHIA has approached the CVM and the Minnesota Veterinary Diagnostic Lab with the possibility of providing a list of "valid" IDs for any herd in the MNDHIA system (if permission was granted by the herd owner). This data base would consist of over 2,500 herds and close to 400,000 dairy animals, including youngstock.

This concept expands on the concept of increasing the accuracy of sample identification. It would allow the diagnostic lab an opportunity to match the sample to a unique identifier from a list of valid IDs from MNDHIA. This system could be adopted for samples with either handwritten or barcoded labels. It would also allow matching of samples back to the unique identifier even if some other form of identifier was used on the sample.

The DHIA valid ID list could be incorporated into the on-line submission form and at the point of sample logging into the system at the diagnostic lab. This would allow data entry errors to be caught at the most appropriate point.

This approach to sample identification would greatly increase the accuracy of the sample identification at the diagnostic lab. It also provides an opportunity to read results directly back into the producer's DairyCOMP305 for a far wider number of dairies.

Use of RFID for Daily Management Purposes on Dairies

Minnesota DHIA and the CVM have been closely collaborating with Valley Ag Software to develop software and technology to adapt RFID tags and related equipment for daily management uses on dairies. These purposes will be of special interest to veterinarians:

Ability to look up cow information out in the cow pens
Guidance of required management tasks for the animal after "wanding" the RFID:
- Pregnancy exams
- Prostaglandin, GnRH, and other reproductive hormones
- Somatotropin injections
- Vaccination

Use in cut-gates for sorting and at weigh scales
Pen inventories

Conclusion

Minnesota DHIA has taken the lead in several areas involving the national ID program and in RFID technology. The University of Minnesota CVM has benefited for many years from a close partnership with MNDHIA. Working with DHIA on RFID technology is leading to a very exciting new area of collaborations between the two organizations. These areas go far beyond mere identification of animals for regulatory tracking. These programs have potential for assisting dairy producers and their veterinarians in areas of sample submission and in daily management tasks.

"Taste of DairyComp305" Reports - New Somatic Cell Reports

Last summer Minnesota DHIA initiated a summer intern program for CVM veterinary students. Carrie Swier, (class of 2006 veterinary student) applied and was selected work at MNDHIA to begin producing new flexible reports to MNDHIA member producers. On the next two pages is an explanation of one new report currently being sent to all MNDHIA producers. These reports will include the herd's own SCC information and include a histogram of all herds to allow comparisons between herds. These reports will rotate every 6-8 weeks. Please ask your producer to see these reports and assist them in using the information to improve milk quality.

Minnesota DHIA
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Somatic Cell Counts

Using DHIA SCC Records to Improve Milk Quality and Mastitis Control

Topic: New Infections

Over the next several months Minnesota DHIA will be producing reports based on your herd's Somatic Cell Count (SCC) records. Histograms produced from the SCC data from all Minnesota DHIA herds will be included to allow you to see what other herds are capable of achieving and to assist you in setting goals for your dairy.

This month the focus will be on the percent of cows with new infections. According to Dr. Ralph Farnsworth (mastitis expert at the University of Minnesota College of Veterinary Medicine), taking steps to decrease the number of new infections is likely the MOST critical factor to improve milk quality and for long term mastitis control. Suggestions to aid in the prevention of new infections are included on the page with the histogram.

New infections are defined here as animals that:

- Tested for SCC at both the most recent test and the test prior to the most recent test
- Had low SCC at the prior test and high SCC at the most recent test

An SCC cut-off of 200 thousand (linear score 4.0) was used for defining a cow as infected.

We will be including a report from your herd in this mailing. This report can also be obtained in the future either from your local Minnesota DHIA field rep or you may generate it yourself if you have DairyCOMP305. The example was generated using this DairyCOMP305 command:

```
PLOT LGSCC=4 BY LGSCC FOR LACT>0\RZY
(Alternative form: PLOT SCC=200 BY SCC FOR LACT>0\RZY)
```

Example Herd Report (Percent new infections line is in the box)

Most Recent TestDay

LGSCC		TEST DATES												
		729	825	929	1027	1124	1229	129	224	323	420	518	621	720
Chronic	%	12	13	13	13	12	11	9	10	9	11	10	9	8
	#	104	113	112	119	110	96	76	89	76	101	89	84	83
New Inf	%	9	8	10	9	7	9	10	8	10	9	6	7	9
	#	80	74	87	76	65	75	84	72	86	86	49	70	89
Cured	%	7	7	5	6	6	5	6	6	6	6	6	6	4
	#	58	65	45	51	55	45	54	53	50	56	53	53	43
Clean	%	71	72	72	72	74	75	74	75	76	74	78	78	78
	#	604	634	613	638	653	648	625	656	655	699	674	750	772
HiFresh	%	10	10	15	9	16	15	13	12	14	10	15	8	22
	#	8	8	17	7	16	16	12	11	11	8	13	9	26
LoFresh	%	90	90	85	91	84	85	87	88	86	90	85	92	78
	#	69	69	96	68	87	92	80	77	66	70	72	101	93
Average		2.7	2.6	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.6	2.3	2.1	2.5
	#	923	963	970	959	986	972	931	958	944	1020	950	1067	1106

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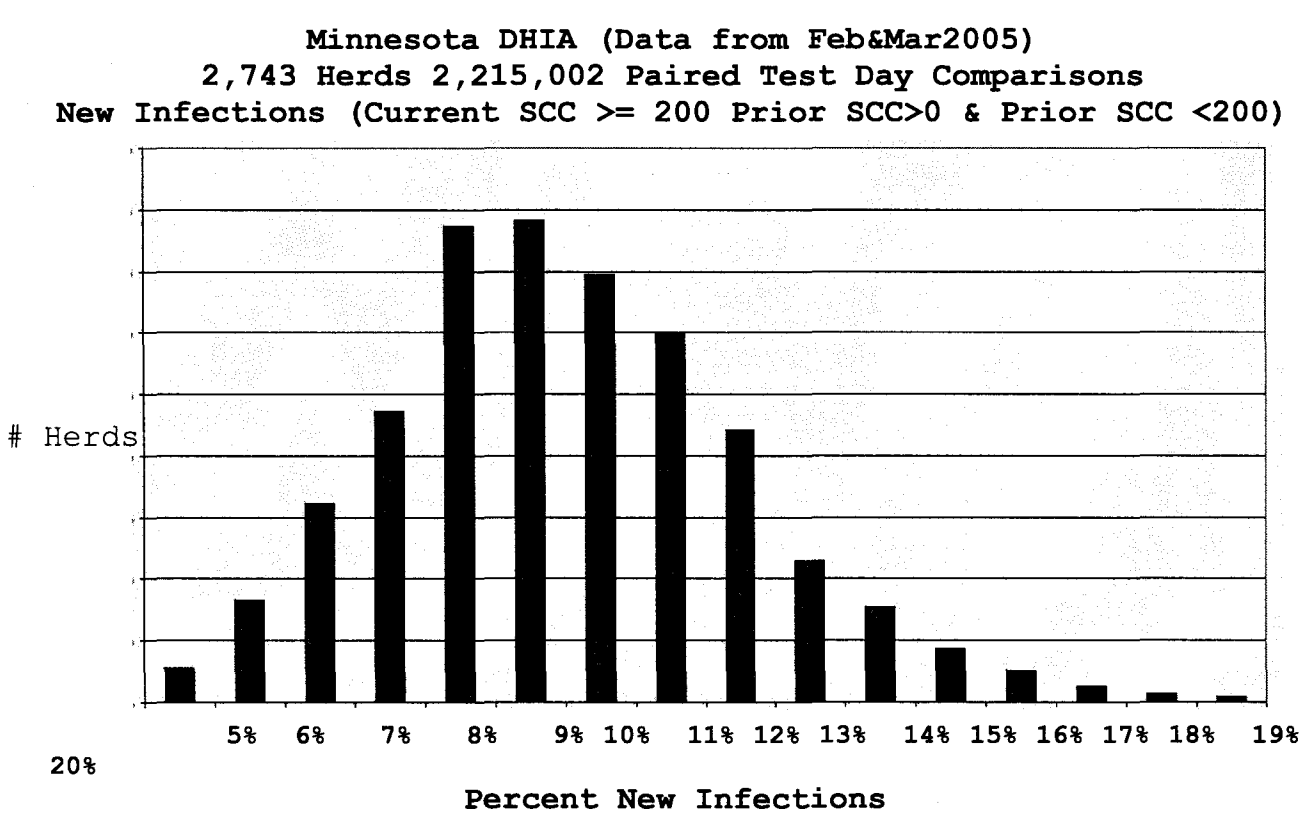

Key Steps in Prevention of New Infections in Lactating Animals

Key area #1: Proper pre-milking teat and teat end preparation (Part of Minnesota One-Step Cow Prep)

- Be sure to completely cover teat with a good germicidal dip when predipping
- Use your gloved hands to loosen any dirt and allow predip to directly contact the skin
- Use your thumb to loosen any dirt on the teat ends
- Use a clean cloth towel to completely remove all dirt and teat dip from teat barrels
- Use a clean area on the cloth towel to rub and clean teat ends thoroughly

Key area #2: Proper post-milking teat dipping

- Use a high quality germicidal teat dip with skin conditioners
- Be sure to completely cover teat with the post dip

Key area #3: Keep animals and their stalls clean

- Keep bedding in stalls clean and deep enough for comfort
- Avoid walking animals through areas where manure can be splashed
- Remove excessive udder hair regularly